



What's new in ICT, popular culture, media & education?



Lindy Hathaway
Moderation Day
Dickson College
11 August 2016



Canberra Libraries get appy

- Install the Borrow Box app (iOS & Android)
- Search and download and start reading or listening
- Over 4000 titles currently available





John Marsden's schools

- Candlebark P-7 school - opened term 1 2006 in Romsey, Victoria
- No cleaners, no PA, no receptionist, 1 admin manager and Marsden
- Playtime is highly valued
- NAPLAN - doing well
- Up to 250 applications every year from teachers - applications containing buzzwords are discarded; life experience is valued; very few teachers leave

<http://www.candlebark.info/>

- His new Alice Miller School Yrs 7-12 - opened term 1 2016 in Macedon, Victoria
- Offers VCE in Yrs 11 & 12 - emphasis on creativity, drama, art, writing, music, dance (entrance by audition or portfolio)
- Classes 10.30am to 5pm (doors open 9am)
- Students cook lunch, wash up and clean

<http://www.educationtoday.com.au/article/Alice-Miller-School-makes-two-1192>

Candlebark library



<http://www.architectureanddesign.com.au/projects/education-health/candlebark-school-library>

Digital Technologies Curriculum

- In place 2017 - but will probably take 10 years to implement
 - Digital Technologies - promotes the **creation** of solutions using technology, whereas the ICT General Capability is for **users** of technology (software, security, privacy, copyright, accessing info, evaluating info, collaborating, sharing etc)
 - DT - exploring hardware, software, networks, data, information, creating digital solutions, experimenting with algorithms, text-based programming begins to replace visual programming in high school
 - Students will be at vastly different levels of knowledge - very important to audit them
 - Use the ICT in Schools program to organise visits from experts
 - Use computational thinking in all subjects to break down problems
 - Money and time is needed to train teachers and provide good resources
- Useful links at end of article:
- <http://www.educationtoday.com.au/article/Digital-Technologies--1195>

STEM Video Game Challenge

- National competition run by ACER for students in Yrs 5-12
- More than 1500 took part in 2015
- Teachers report they “can barely contain their students’ enthusiasm for their projects”
- Teacher Learning Pack explains game development basics, suggests software and has curriculum links
- Winners go to Penny Arcade Expo gaming convention, where industry professionals play and review the games
- Winner Yr 9-12 2015 - Rexplorer (endangered animals and evil robots)

www.stemgames.org.au/resources

www.pwc.com.au/stem.html



Gamification

- UNSW School of Business first year microeconomics course rebuilt as a game - Playconomics (part SimCity, part Civilisation)
- The first gamified course in economics worldwide
- Students attend lectures but textbooks and coursework have been replaced by the game
- In 2015 it was run in 3 unis, with 4000+ students
- Very popular - 35% increase in enrolments in semester 2
- The game was built on the Unity game engine - multi-platform and open
- Sequel was made and also Playmed for medicine
- Unity can be used by other academics to create their courses



Apple's Swift Playgrounds

- Launched June; available Sept 2016
- Designed for iPad - makes coding fun & easy
- Beginners explore using Swift, the easy-to-learn programming language used by professionals
- Students learn how to write code to guide onscreen characters through worlds, solving puzzles
- Easy enough for students and beginners, yet powerful enough to write real code



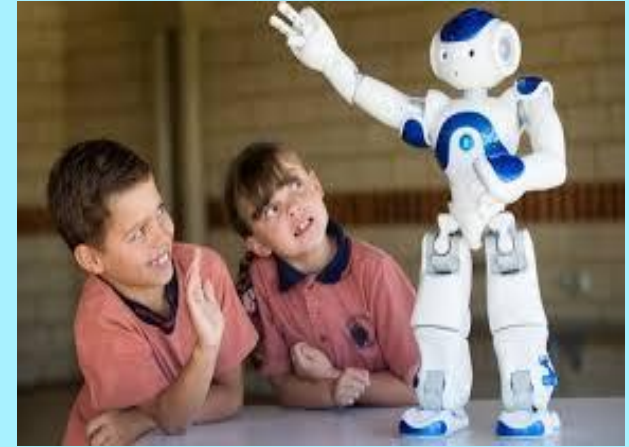
<http://www.apple.com/swift/playgrounds/>

<http://thenextweb.com/apple/2016/07/14/apple-swift-playgrounds-preview/#gref>

Moonhack

- 20 July 2016 - more than 10 000 Australian kids at the Moonhack event set a new world record for the number of children coding
- Run by Code Club Australia, participants completed a series of programming exercises related to astronomy & science





Aust. distributor: <http://www.brainaryinteractive.com/nao-robot/>

Various robots & prices: <http://www.smashingrobotics.com/thirteen-advanced-humanoid-robots-for-sale-today/>



NAO robots

- Used in 7 South Australian Independent Schools since early 2015 - first major Australian study of how humanoid robots affect learning and teaching in schools
- The robots have unlocked innovative approaches to education, enhanced collaboration between students and teachers, led to a rapid uptake of high level cognitive processes and a “remarkably quick adoption” of coding language Python
- Used with preschoolers to Yr 10 - Maths, Digital Technologies, English, German - robots are used for 8 - 10 weeks
- Males and females equally interested
- Powerful way for teachers to embrace the new Digital Technologies curriculum
- Robots come with 30 licences for laptops
- Will the positive effects continue with longer exposure to the robots? 2 schools have now bought their own robot

NAO robots

- Teachers & students all love the robot because of the endearing way it behaves - they engage with it in a deeper way
- Deepest learning occurs when students play with the robot and discover things
- NAO robots have been used to treat brain injuries and to diagnose autism - subjects often respond better to the robots than humans



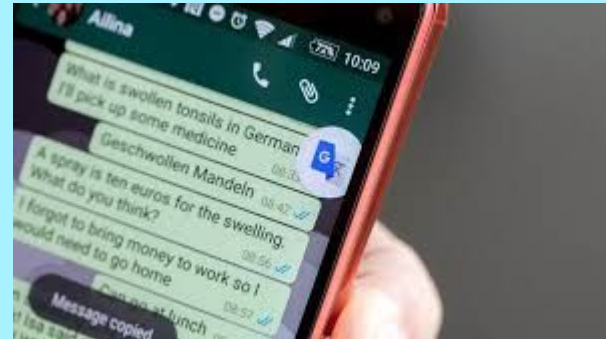
Google Translate

Google Translate

- Speak, scan, type or draw to translate in 103 languages at various levels
- Can be used offline (iOS & Android)
- Serves over 200 million people daily

Google's Tap to Translate

- Copy the text, then tap the translation icon inside any Android app - no need to launch Google Translate.



<http://www.theverge.com/2016/5/11/11656900/tap-to-translate-google-translate-inside-any-android-app>

Google's Word Lens

- Part of Google Translate
- Point your phone camera at words and get translations on screen
- 28 languages can be translated including Chinese, Arabic, Thai, Italian, Spanish, Russian, Indonesian...



<http://www.news.com.au/technology/innovation/google-translate-now-lets-users-turn-chinese-characters-into-english-at-the-pointing-of-a-cameraphone/news-story/db5c53b9da0c353c7f46c08099a894d6>

Google's Mobile Vision

- Allows Android phones to read books, signs, business cards...
- Developers can make their apps read aloud in real time any text within the camera's field of vision



<http://www.zdnet.com/article/android-phones-can-now-read-books-signs-business-cards-via-googles-mobile-vision/>

YouTube

- More elaborate content with live 360 degree video and audio
- View the new videos on standard computers or with virtual reality headsets
- Tune in to live broadcasts of sports events and concerts and turn your head to look around
- Google & GoPro have built Jump, a 360 degree camera that allows you to create VR videos
- Facebook added 360 videos in 2015 and now also has live videos
- Facebook has released designs for a free 360 degree camera



<http://www.smh.com.au/technology/technology-news/google-searches-for-more-consumer-eyeballs-with-live-vr-videos-20160419-go9q1p.html>



Trust Google?

- European regulators and privacy watchdogs distrust Google's dominance
- 2014 - Europeans gained "the right to be forgotten" on the internet
- Now Google is at the forefront of Europe's enforcement of internet privacy - regulators have handed review powers to Google, Microsoft etc
- Since 2014 Google has looked at more than 418 000 cases (c.570 per day) from people who want links of search results removed - it has approved less than half
- Google has not said how its review process works, despite requests from academics

http://www.nytimes.com/2016/04/19/technology/google-europe-privacy-watchdog.html?_r=0

Google Transparency Report

- Government requests for user data are on the rise worldwide
- Google reports on government requests every 6 mths
- 2nd half 2015 - 40 000+ requests for data on 81 000+ accounts
- Most government requests are from the US, followed by Ireland and Germany

(US 27 000 requests for 12 000 accts)

- Google handed over “some” user data for 64% of worldwide requests - but 79% of US requests
- Microsoft, Facebook, Reddit also provide reports

<http://www.computerworld.com/article/3097003/security/google-says-government-requests-for-user-data-at-all-times-high.html>



Stopping hate-speech

- Facebook, Twitter, Google, and Microsoft have agreed to a Code of Conduct on hate-speech in the E.U.
- The tech companies agree to review hate-speech notifications within 24 hours and report on their efforts to the E.U.'s "High Level Group on Combating Racism, Xenophobia and all forms of intolerance by the end of 2016."
- The code stipulates that tech companies, "recognizing the value of independent counter speech against hateful rhetoric and prejudice," will also "aim to continue their work in identifying and promoting independent counter-narratives, new ideas and initiatives and supporting educational programs that encourage critical thinking."

<http://reason.com/blog/2016/05/31/eu-hate-speech-code-of-conduct>

Google Cultural Institute: Art. History. Wonders.

- 2011 - begins with 17 partners
- Aug 2015 - 850+ partners use Cultural Institute tools to provide access to 4.7 million assets and 1500+ digital exhibitions
- Dec 2015 - 60 performing arts organisations from 20 countries provide 360 degree videos of dance, music, opera, theatre
- Dec 2015 - Mobile Vision-enabled app launches. Visitors point their device at artworks for information



- Amit Sood (Director of Google Cultural Institute) TED Talk:
https://www.ted.com/talks/amit_ood_every_piece_of_art_you_ve_ever_wanted_to_see_up_close_and_searable?language=en

<https://www.google.com/culturalinstitute/beta/>

Google Cultural Institute

- Dec 2015 - Google Cardboard pilot - users immerse themselves in a VR tour of museums & galleries
- 14 Dec 2015 - Launch of Google Arts & Culture app
- 21 Jan 2016 - 1000 partners
- March 2016 - Tilt Brush, a VR painting app
- May 2016 - Art Camera - zoom into 1000 artworks

<https://googleblog.blogspot.com.au/2016/05/art-camera-cultural-institute.html>



<https://www.digitalbodies.net/virtual-reality/vr-and-ar-comes-to-googles-new-art-and-culture-app/>

Facebook's internet drone

- Aquila - Facebook's lightweight, solar-powered, high altitude drone - flew for 96 mins above Yuma, Arizona in June 2016
- It will beam down internet connectivity via lasers to isolated parts of the world





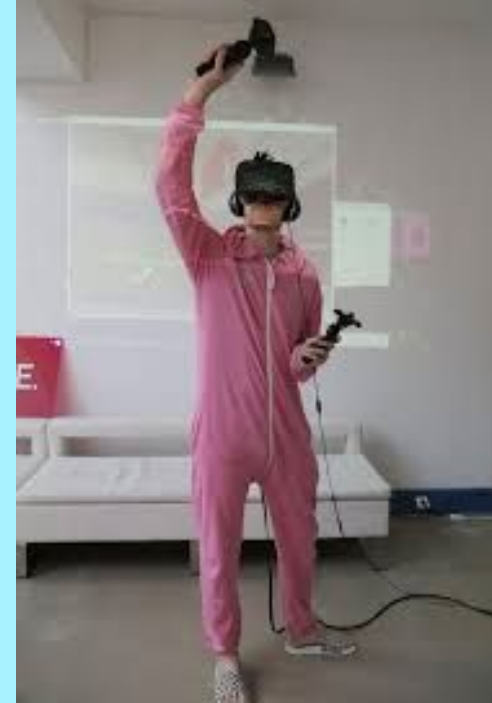
Virtual Reality

- Oculus Rift & HTC Vive VR headsets released in April
- Melbourne developer Opaque Media created *Earthlight* - replicates the training of a NASA astronaut going to the International Space Station
- NASA liked the demo & gave them access to training facilities at the Johnson Space Center in Houston
- Astronauts' hand and head movements are mapped on to the digital avatar so interactions in the game are very engaging
- Wearing real space suits and helmets showed them that astronauts had a much clearer view than the virtual helmets

<http://www.smh.com.au/technology/games/earthlight-on-e-giant-leap-for-virtual-reality-20160415-go74xj.html>

Virtual Reality

- Thornsten Wiedeman immersed himself in various forms of VR for 48 hrs at a Berlin art festival - no problems but he had a panic attack after 25 hrs and wanted to escape!
- Rat experiment - 60% of brain neurons shut down when using VR
- Dementia patients reconnected after using VR and said they now had a place to go



Good and bad VR

- Prof. Tom Furness (VR pioneer, Uni of Washington) - VR is very realistic and graphic. Players become numb to violence in games - he wants games to focus on creative worlds (eg. Minecraft) rather than on violent worlds
- Manolya Kavakli (Director VR Lab Macq Uni) - there are many positive effects of VR but in the wrong hands it could be evil



Mixed Reality

- Different from VR and AR
- Mixed Reality mimics how the real world works - people see objects as being really there
- Magic Leap system coming 2016 - you will see objects in the real world without a noticeable screen and "it will be pretty epic" (Abovitz)
- Magic Leap uses the brain and eyes so the headsets required will be small and lightweight
- Will be used for games and also clothing (virtually try them on) and seeing what a couch looks like in your home....
- Lucasfilm working with them





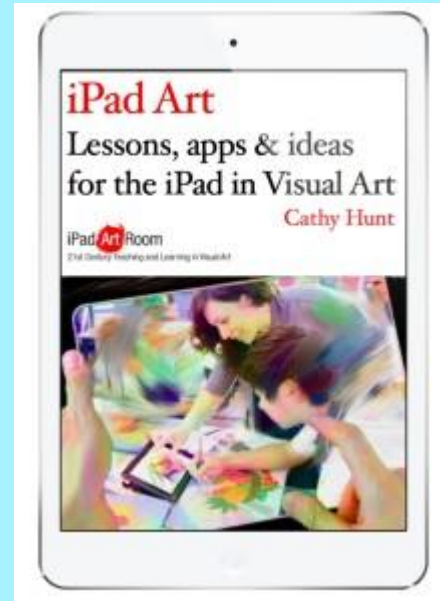
iPad*palooza*

Design. Create. Think. Learn.

iPad Art Room

- Excellent website of Cathy Hunt, art teacher St Hilda's School, Gold Coast Qld
- 21st century teaching and learning in visual art using mobile devices
- Lesson ideas, free resources, free books and courses
- iBooks: *iPad art* and *More iPad art*

<http://www.ipadartroom.com/>

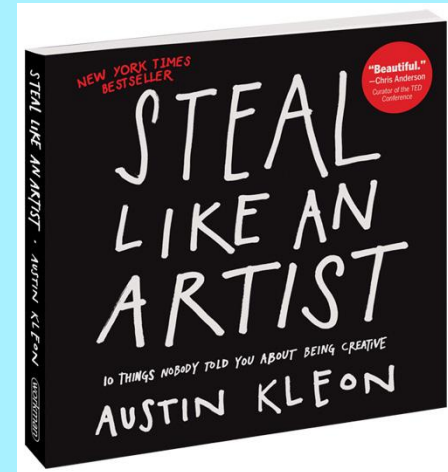




Austin Kleon: artist and writer

- Creativity is not a talent, it's a way of operating
- Steal like an artist - everyone builds on something else
- Start copying - T.S. Eliot: good poets imitate, great poets steal
- Good theft vs bad theft - if you transform and remix, it's good
- Use your hands - get away from the screen
- Have a few projects going at once
- The secret - do good work and share it with people - ideas arise out of a stew of artists who share
- Creativity is subtraction - people who zoom in on the things they love can be successful

<http://austinkleon.com/>





Tim Winton at the NLA



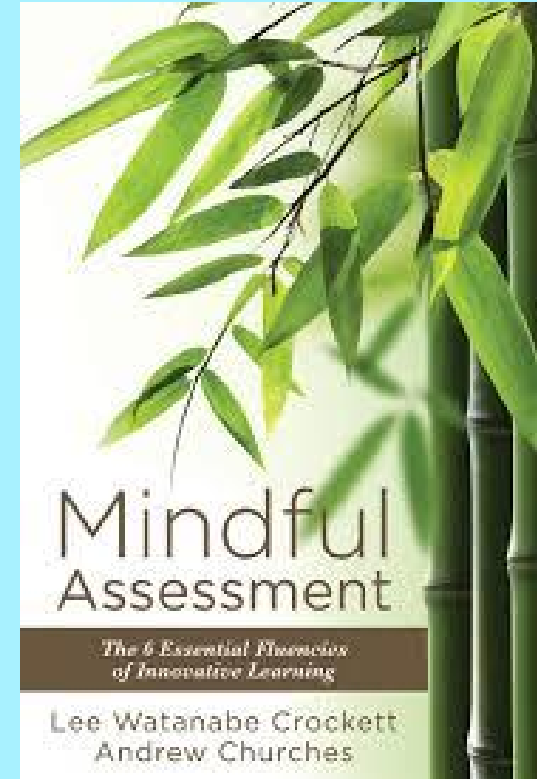
8 October 2016, 11.30am - 12.30pm, \$15

“Winton reveals the real characters and events behind his bestselling novels in this intimate discussion ranging across his boyhood, movies and road-trips, family and faith to the natural world, art and writing.”

New book Oct 2016 - memoirs of his life:
The boy behind the curtain

**Crockett, Lee and Churches,
Andrew 2016, *Mindful assessment:
the 6 essential fluencies of
innovative learning*, Perfect
Paperback.**

- Measure what matters beyond literacy & numeracy
- Discover the essential fluencies and skills students need for success in the 21st century
- Examine different kinds of assessments and their strengths and weaknesses
- Assessment rubrics for evaluating students' skills in the fluencies.



Upcoming films

- The handmaid's tale (miniseries - 2017)
- A monster calls (Oct 2016)
- Miss Peregrine's home for peculiar children (Sept 2016)
- Ben Hur (Aug 2016)
- Snowden (Sept 2016)
- The girl on the train (Oct 2016)
- A monster calls (Oct 2016)
- The light between oceans (Nov 16)
- Dr Strange (Nov 2016)
- Dunkirk (July 2017)

